

## **CLAIMS**

We claim:

1. A system for providing a programming signal containing a program and at least one address identifying online content relating to the program from an online information source, the system comprising:

an encoder, wherein the encoder encodes the address and the program into the programming signal; and

a transmitter for transmitting the programming signal;

wherein, at some time after provision of the address, the online content is automatically retrieved and played to a user in conjunction with the program.

2. A system as described in claim 1, wherein the encoder and the transmitter are located at a Web hosting site.

3. A system as described in claim 1, wherein the programming signal is transmitted via at least one transmission system selected from the group consisting of: the Internet, an intranet, terrestrial broadcast, radio frequency broadcast, cable, satellite broadcast, fiber optics, a telephone circuit, a wireless connection, a public network, and a private network.

4. A system as described in claim 1, wherein the program is a previously recorded program on a recording medium.

5. A system as described in claim 4, wherein the recording medium is at least one selected from the group consisting of: VHS tape, compact disc, digital versatile disc, magnetic tape, computer hard drive, random access memory, read only memory, CD ROM, a magnetic data storage medium, and an optical data storage medium.

6. A system as described in claim 1, wherein the program is transmitted as a live event.

7. A system as described in claim 1 wherein the program comprises at least one form selected from the group consisting of: audio, video, data, graphics, animation, text, video stills, slow frame video, and multimedia.

8. A system as described in claim 1, wherein the address is an Internet URL, the URL identifying the online information source which is an Internet site.

9. A system as described in claim 1, further comprising a memory device for storing the address prior to transmission.

10. A system as described in claim 9, wherein the memory device is at least one selected from the group consisting of: a compact disc, a digital versatile disc, a magnetic tape, a computer hard drive, a random access memory, a read only memory, a CD ROM, a server, a magnetic data storage medium, and an optical data storage medium.

11. A system as described in claim 1, wherein the online information source is an Internet service provider.

12. A system as described in claim 1, wherein the online information source is selected from the group consisting of: an intranet, the Internet, a public network, and a private network.

13. A system as described in claim 1, wherein the online content comprises content in a form selected from the group consisting of: text, graphics, video, data, audio, animation, video stills, slow frame video, and multimedia.

14. A system as described in claim 1, wherein the program is a sports program.

15. A system as described in claim 1, wherein the program is an advertisement.

16. A system as described in claim 1, wherein the online content is an advertisement.

17. A system as described in claim 1, wherein the program is a motion picture program.
18. A system as described in claim 1, wherein the program is a game show program.
19. A system as described in claim 1, wherein the program is a video program.
20. A system as described in claim 1, wherein the program is a live program.
21. A system as described in claim 1, wherein the program is an audio program.
22. A system as described in claim 1, wherein the program is a music video program.
23. A system as described in claim 1, wherein the program is a news program.
24. A system as described in claim 1, wherein the program comprises video and audio and the encoder embeds the address in a non-presented portion of the program.
25. A system as described in claim 24, wherein the non-presented portion of the program is a vertical blanking interval.
26. A system as described in claim 24, wherein the non-presented portion of the program is a horizontal blanking interval.
27. A system as described in claim 24, wherein the non-presented portion of the program is the audio portion of the program.
28. A system as described in claim 24, wherein the non-presented portion of the program is a subcarrier of the program.
29. A system as described in claim 24, wherein the non-presented portion of the program is a data field.
30. A system as described in claim 1, wherein the programming signal is in digital format.
31. A system as described in claim 1, wherein the programming signal is in analog format.

32. A system as described in claim 9, wherein multiple addresses are stored in a link file in the memory device.

33. A system as described in claim 32, wherein the link file is transmitted to the user.

34. A system as described in claim 1, wherein the address is selected based on a profile of a collection of users.

35. A system as described in claim 1, wherein the online content relates to a sitcom program.

36. A system as described in claim 1, wherein the online content relates to an interactive game show program.

37. A system as described in claim 1, wherein the online content is stored in one selected from the group consisting of: magnetic tape, compact disc, digital versatile disc, computer hard drive, random access memory, read only memory, CD ROM, a magnetic data storage medium, and an optical data storage medium.

38. A system as described in claim 1, wherein the online content relates to a polling question.

39. A system as described in claim 22, wherein the online content contains ~~additional information related to the music video program selected from the group consisting~~ of: biographical information on an artist, a concert schedule, and information on buying goods related to the artist.

40. A system as described in claim 1, wherein the online content contains a query for the user to respond to a poll.

41. A system as described in claim 1, wherein the online content is selected based, at least in part, on a user profile.

42. A system as described in claim 1, wherein the program is selected based, at least in part, on a user profile.

43. A system as described in claim 42, wherein the user profile is stored in a storage device at one of the locations selected from the group consisting of: a user station, a personal computer, a cable head-end, a cable box, a satellite receiver, an intranet site, an Internet site, and a satellite operations center.

44. A system as described in claim 1, wherein the address relates to a polling question.

45. A system as described in claim 1, further comprising a data management storage device, wherein information about the user is stored in the data management storage device.

46. A system as described in claim 45, wherein an analysis is performed on the user information.

47. A system as described in claim 45, wherein the user information contains user clicks made by the user on a user interface while using an online service provider.

48. A system as described in claim 45, wherein information about a plurality of users is stored in the data management storage device.

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49. A system as described in claim 45, wherein the user information contains information selected from the group consisting of: the geographic location of the user, clicks made by the user on a user interface while using an on line service provider, user viewing habits, and demographics of the user.

50. A system as described in claim 45, wherein the program is selected, at least in part, based on the user information.

51. A system as described in claim 45, wherein the data management storage device is located at a location selected from the group consisting of: a user station, a personal

computer, a cable head-end, a cable box, a satellite receiver, a satellite operations center, an intranet site, a public network, a private network, and an Internet site.

52. A system as described in claim 45, wherein the programming signal contains a predetermined advertisement and wherein selection of the predetermined advertisement is based, at least in part, on the user information.

53. A system as described in claim 45, wherein the online content is based, at least in part, on the user information.

54. A system as described in claim 45, wherein the address is selected, at least in part, based on the user information.

55. A system as described in claim 45, wherein the online content contains an advertisement and wherein the advertisement is selected, at least in part, based on the user information.

56. A system as described in claim 45, wherein the programming signal contains a graphics segment and wherein the graphics segment is selected, at least in part, based on the user information.

57. A method for providing a programming signal containing a program and at least one address identifying online content relating to the program from an online information source, the method comprising:

combining the address and the program into the programming signal; and

5 transmitting the programming signal to a user;

wherein, at some time after transmitting the address, the online content is automatically retrieved and presented to the user in conjunction with the program.

58. A method as described in claim 57, wherein the steps of combining and transmitting are performed at a Web hosting site.

59. A method as described in claim 57, wherein the programming signal is transmitted via at least one transmission system selected from the group consisting of: the Internet, an intranet, terrestrial broadcast, cable, satellite broadcast, radio frequency broadcast, fiber optics, a telephone circuit, a wireless connection, a public network, and a private network.

60. A method as described in claim 57, wherein the program is a previously recorded program on a recording medium.

61. A method as described in claim 60, wherein the recording medium is at least one selected from the group consisting of: VHS tape, compact disc, digital versatile disc, magnetic tape, computer hard drive, random access memory, read only memory, CD ROM, a magnetic data storage medium, and an optical data storage medium.

62. A method as described in claim 57, wherein the program is transmitted as a live event.

63. A method as described in claim 57, wherein the program comprises at least one form selected from the group consisting of: audio, data, video, graphics, animation, text, video stills, slow frame video, and multimedia.

64. A method as described in claim 57, wherein the address is an Internet URL, the URL identifying the online information source which is an Internet site.

65. A method as described in claim 57, further comprising the step of storing the address prior to transmission.

66. A method as described in claim 57, wherein the address is stored in a memory device, the memory device comprising at least one selected from the group consisting of: compact disc, digital versatile disc, magnetic tape, computer hard drive, random access memory, read only memory, CD ROM, a server, a magnetic data storage medium, and an optical data storage medium.

67. A method as described in claim 57, wherein the online information source is an Internet service provider.

68. A method as described in claim 57, wherein the online information source comprises one selected from the group consisting of: an intranet, the Internet, a public network, and a private network.

69. A method as described in claim 57, wherein the online content comprises content in a form selected from the group consisting of: text, graphics, video, data, audio, animation, video stills, slow frame video, and multimedia.

70. A method as described in claim 57, wherein the program is a sports program.

71. A method as described in claim 57, wherein the program is an advertisement.

72. A method as described in claim 57, wherein the online content is an advertisement.

73. A method as described in claim 57, wherein the program is a motion picture program.

74. A method as described in claim 57, wherein the program is a game show program.

75. A method as described in claim 57, wherein the program is a video program.

76. A method as described in claim 57, wherein the program is a live program.

77. A method as described in claim 57, wherein the program is an audio program.

78. A method as described in claim 57, wherein the program is a music video program.

79. A method as described in claim 57, wherein the program is a news program.

80. A method as described in claim 57, wherein the program comprises video and audio and the address is embedded in a non-presented portion of the program.



81. A method as described in claim 80, wherein the non-presented portion of the program is a vertical blanking interval.

82. A method as described in claim 80, wherein the non-presented portion of the program is a horizontal blanking interval.

83. A method as described in claim 80, wherein the non-presented portion of the program is the audio portion of the program.

84. A method as described in claim 80, wherein the non-presented portion of the program is a subcarrier of the program.

85. A method as described in claim 80, wherein the non-presented portion of the program is a data channel.

86. A method as described in claim 57, wherein the programming signal is in digital format.

87. A method as described in claim 57, wherein the programming signal is in analog format.

88. A method as described in claim 66, wherein multiple addresses are stored in a link file in the memory device.

89. A method as described in claim 88, wherein the link file is transmitted to the user.

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90. A method as described in claim 57, wherein the address is selected based on a profile of a collection of users.

91. A method as described in claim 57, wherein the online content relates to a sitcom program.

92. A method as described in claim 57, wherein the online content relates to an interactive game show program.

93. A method as described in claim 57, wherein the online content is stored in one selected from the group consisting of: magnetic tape, compact disc, digital versatile disc, computer hard drive, random access memory, read only memory, CD ROM, a magnetic data storage medium, and an optical data storage medium.

94. A method as described in claim 57, wherein the online content relates to a polling question.

95. A method as described in claim 78, wherein the online content contains additional information related to the music video program selected from the group consisting of: biographical information on an artist, a concert schedule, and information on buying goods related to the artist.

96. A method as described in claim 57, wherein the online content contains a query for the user to respond to a poll.

97. A method as described in claim 57, wherein the online content is selected based, at least in part, on a user profile.

98. A method as described in claim 57, wherein the program is selected based, at least in part, on a user profile.

99. A method as described in claim 98, wherein the user profile is stored in a storage device at one of the locations selected from the group consisting of: a user station, a personal computer, a cable head-end, a cable box, a satellite receiver, an intranet site, an Internet site, and a satellite operations center.

100. A method as described in claim 57, wherein the address relates to a polling question.

101. A method as described in claim 57, further comprising retrieving information about the user from a data management storage device.

102. A method as described in claim 101, wherein the method further comprises the step of performing an analysis on the user information.

103. A method as described in claim 101, wherein the user information contains user clicks made by the user on a user interface while using an online service provider.

104. A method as described in claim 101, wherein information about a plurality of users is stored in the data management storage device.

105. A method as described in claim 101, wherein the user information contains information selected from the group consisting of: the geographic location of the user, clicks made by the user on a user interface while using an on line service provider, user viewing habits, and demographics of the user.

106. A method as described in claim 101, wherein the method further comprises selecting the program based, at least in part, on the user information.

107. A method as described in claim 101, wherein the data management storage device is located at a location selected from the group consisting of: a user station, a personal computer, cable head-end, a cable box, a satellite receiver, an intranet site, a public network, a private network, and an Internet site.

108. A method as described in claim 101, wherein the program contains a ~~predetermined advertisement and wherein selection of the predetermined advertisement is~~ based, at least in part, on the user information.

109. A method as described in claim 101, wherein the online content is based, at least in part, on the user information.

110. A method as described in claim 101, wherein the address is selected, at least in part, based on the user information.

111. A method as described in claim 101, wherein the online content contains an advertisement and wherein the advertisement is selected, at least in part, based on the user information.

112. A method as described in claim 101, wherein the programming signal contains a graphics segment and wherein the graphics segment is selected, at least in part, based on the user information.

113. A computer readable medium containing instructions for providing a programming signal containing a program and at least one address identifying online content relating to the program from an online information source, by:

combining the address and the program into the programming signal; and

5 transmitting the programming signal;

wherein, at some time after transmitting the address, the online content is automatically retrieved and presented to a user in conjunction with the program.

114. A computer readable medium as described in claim 113, wherein the steps of combining and transmitting are performed at a Web hosting site.

115. A computer readable medium as described in claim 113 wherein the programming signal is transmitted via at least one transmission system selected from the group consisting of: the Internet, an intranet, terrestrial broadcast, radio frequency broadcast, cable, satellite broadcast, fiber optics, a telephone circuit, a wireless connection, a public  
5 network, and a private network.

116. A computer readable medium as described in claim 113 wherein the program is a previously recorded program on a recording medium.

117. A computer readable medium as described in claim 113 wherein the recording medium is at least one selected from the group consisting of: VHS tape, compact disc, digital

versatile disc, magnetic tape, computer hard drive, random access memory, read only memory, CD ROM, a magnetic data storage medium, and an optical data storage medium.

118. A computer readable medium as described in claim 113 wherein the program is transmitted as a live event.

119. A computer readable medium as described in claim 113 wherein the program comprises at least one form selected from the group consisting of: audio, data, video, graphics, animation, text, video stills, slow frame video, and multimedia.

120. A computer readable medium as described in claim 113, wherein the address is an Internet URL, the URL identifying the online information source which is an Internet site.

121. A computer readable medium as described in claim 113, wherein the instructions further comprise the step of storing the address prior to transmission.

122. A computer readable medium as described in claim 113, wherein the address is stored in a memory device, the memory device comprising at least one selected from the group consisting of: compact disc, digital versatile disc, magnetic tape, computer hard drive, random access memory, read only memory, CD ROM, a server, a magnetic data storage medium, and an optical data storage medium.

123. A computer readable medium as described in claim 113, wherein the online information source is an Internet service provider.

124. A computer readable medium as described in claim 113, wherein the online information source comprises one selected from the group consisting of: an intranet, the Internet, a public network, and a private network.

125. A computer readable medium as described in claim 113, wherein the online content comprises content in a form selected from the group consisting of: text, graphics, video, data, audio, animation, video stills, slow frame video, and multimedia.

126. A computer readable medium as described in claim 113, wherein the program is a sports program.

127. A computer readable medium as described in claim 113, wherein the program is an advertisement.

128. A computer readable medium as described in claim 113, wherein the online content is an advertisement.

129. A computer readable medium as described in claim 113, wherein the program is a motion picture program.

130. A computer readable medium as described in claim 113, wherein the program is a game show program.

131. A computer readable medium as described in claim 113, wherein the program is a video program.

132. A computer readable medium as described in claim 113, wherein the program is a live program.

133. A computer readable medium as described in claim 113, wherein the program is an audio program.

134. A computer readable medium as described in claim 113, wherein the program is a music-video program.

135. A computer readable medium as described in claim 113, wherein the program is a news program.

136. A computer readable medium as described in claim 113, wherein the program comprises video and audio and the address is embedded in a non-presented portion of the program.

137. A computer readable medium as described in claim 136, wherein the non-presented portion of the program is a vertical blanking interval.

138. A computer readable medium as described in claim 136, wherein the non-presented portion of the program is a horizontal blanking interval.

139. A computer readable medium as described in claim 136, wherein the non-presented portion of the program is the audio portion of the program.

140. A computer readable medium as described in claim 136, wherein the non-presented portion of the program is a subcarrier of the program.

141. A computer readable medium as described in claim 136, wherein the non-presented portion of the program is a data channel.

142. A computer readable medium as described in claim 113, wherein the programming signal is in digital format.

143. A computer readable medium as described in claim 113, wherein the programming signal is in analog format.

144. A computer readable medium as described in claim 122, wherein multiple addresses are stored in a link file in the memory device.

145. A computer readable medium as described in claim 144, wherein the link file is transmitted to the user.

146. A computer readable medium as described in claim 113, wherein the address is selected based on a profile of a collection of users.

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147. A computer readable medium as described in claim 113, wherein the online content relates to a sitcom program.

148. A computer readable medium as described in claim 113, wherein the online content relates to an interactive game show program.

149. A computer readable medium as described in claim 113, wherein the online content is stored in one selected from the group consisting of: magnetic tape, compact disc,

digital versatile disc, computer hard drive, random access memory, read only memory, CD ROM, a magnetic data storage medium, and an optical data storage medium.

150. A computer readable medium as described in claim 113, wherein the online content relates to a polling question.

151. A computer readable medium as described in claim 134, wherein the online content contains additional information related to the music video program selected from the group consisting of: biographical information on an artist, a concert schedule, and information on buying goods related to the artist.

152. A computer readable medium as described in claim 113, wherein the online content contains a query for the user to respond to a poll.

153. A computer readable medium as described in claim 113, wherein the online content is selected based, at least in part, on a user profile.

154. A computer readable medium as described in claim 113, wherein the program is selected based, at least in part, on a user profile.

155. A computer readable medium as described in claim 154, wherein the user profile is stored in a storage device at one of the locations selected from the group consisting of: a user station, a personal computer, a cable head-end, a cable box, a satellite receiver, an intranet site, an Internet site, and a satellite operations center.

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156. A computer readable medium as described in claim 113, wherein the address relates to a polling question.

157. A computer readable medium as described in claim 113, wherein the instructions further comprise the step of retrieving information about the user from a data management storage device.

158. A computer readable medium as described in claim 157, wherein the instructions further comprise the step of performing an analysis on the user information.



159. A computer readable medium as described in claim 157, wherein the user information contains user clicks made by the user on a user interface while using an online service provider.

160. A computer readable medium as described in claim 157, wherein information about a plurality of users is stored in a data management storage device.

161. A computer readable medium as described in claim 157, wherein the user information contains information selected from the group consisting of: the geographic location of the user, clicks made by the user on a user interface while using an on line service provider, user viewing habits, and demographics of the user.

162. A computer readable medium as described in claim 157, wherein the instructions further comprise the step of selecting the program based, at least in part, on the user information.

163. A computer readable medium as described in claim 157, wherein the data management storage device is located at a location selected from the group consisting of: a user station, a personal computer, a cable head-end, a cable box, a satellite receiver, an intranet site, a public network, a private network, and an Internet site.

164. A computer readable medium as described in claim 157, wherein the program contains a predetermined advertisement and wherein selection of the predetermined advertisement is based, at least in part, on the user information.

165. A computer readable medium as described in claim 157, wherein the online content is based, at least in part, on the user information.

166. A computer readable medium as described in claim 157, wherein the address is selected, at least in part, based on the user information.

167. A computer readable medium as described in claim 157, wherein the online content contains an advertisement and wherein the advertisement is selected, at least in part, based on the user information.

168. A computer readable medium as described in claim 157, wherein the programming signal contains a graphics segment and wherein the graphics segment is selected, at least in part, based on the user information.

169. A method for transmitting to a viewer video programming and at least one address useable for retrieving over a network from at least one server on the network on-line information segments having content related to the video programming for viewing in respective predetermined timing relationship with the video programming, comprising the steps of:

providing the at least one address;

generating a signal carrying the video programming;

encoding the signal to carry the at least one address in respective specified timing relationship with the video programming; and

transmitting the signal encoded with the at least one address to a viewer,

wherein the transmitted signal is used for presenting the video programming carried by the signal for viewing, and is decoded to extract the at least one address for retrieving the related on-line information segments over the network from the at least one server for viewing in respective predetermined timing relationship with the video programming.

170. A method as described in claim 169, wherein the step of encoding the signal that carries the at least one address comprises encoding the signal to carry each one of the at least one address with an associated timing indicia for controlling when each one of the at least one address is used for retrieving respective ones of the on-line information segments for viewing in respective predetermined timing relationship with the video programming.

171. A method as described in claim 169, further comprising the steps of creating at least certain ones of the on-line information segments retrievable from respective ones of the at least one server, storing the created on-line information segments at respective ones of the at least one network server, providing at least one address for retrieving the created on-line information segments, and encoding the signal to carry the at least one address for retrieving the created on-line information segments in respective specified timing relationship with the video programming carried thereon before transmission thereof to the viewer.

172. A method as described in claim 169, wherein the decoding of the encoded signal is carried out in proximity to where the viewing of the video programming and the on-line information segments takes place.

173. A method as described in claim 169, wherein the decoding of the signal is carried out remotely from where the viewing of the video programming and the related on-line information segments takes place, and the at least one address extracted from the encoded signal is provided to the viewer over the network.

174. A method as described in claim 169, wherein the network comprises the Internet; the at least one address comprises at least one uniform resource locator; the at least one server comprises at least one Internet web site; and the on-line information segments comprise at least one web page retrieved over the Internet from the at least Internet web site using the at least one uniform resource locator.

175. A method as described in claim 169, wherein the video programming comprises educational subject matter.

176. A method as described in claim 169, wherein the video programming comprises entertainment subject matter.

177. A method as described in claim 169, wherein the video programming comprises advertising subject matter.

178. A method as described in claim 169, wherein the signal is a television signal.

179. A method as described in claim 177, wherein the television signal is analog.

180. A method as described in claim 177, wherein the television signal is digital.

181. A system for transmitting to a viewer video programming and at least one address for retrieving over a network from at least one network server on the network on-line information segments having content related to the video programming for viewing in respective predetermined timing relationship with the video programming, comprising:

5 a source of the at least one address;

a source of a signal carrying the video programming;

an encoder responsive to the source of the at least one address for encoding the signal carrying the video programming to carry the at least one address in respective specified timing relationship with the video programming; and

10 a broadcast system for transmitting the encoded signal to a viewer,

wherein the transmitted signal is used for presenting the video programming carried by the signal for viewing, and is decoded to extract the at least one address for retrieving the related on-line information segments over the network from the at least one server for viewing in respective predetermined timing relationship with viewing of the video

15 programming.

182. A system as described in claim 181, further comprising a computer coupled to the network for creating at least certain ones of the on-line information segments and for sending the created on-line information segments to respective ones of the at least one server on the network for storage therein, wherein the encoder encodes the signal with at least one  
5 address for retrieving the created on-line information segments in respective specified timing relationship with the video programming.

183. A system as described in claim 181, wherein the network comprises the Internet; the at least one address comprises at least one uniform resource locator; the at least  
5 one server comprises at least one Internet web site; and the on-line information segments  
comprise at least one web page retrieved over the Internet from the at least one Internet web  
site using the at least one uniform resource locator.

184. A system as described in claim 181, wherein the video programming  
comprises educational subject matter.

185. A system as described in claim 181, wherein the video programming  
comprises entertainment subject matter.

186. A system as described in claim 181, wherein the video programming  
comprises advertising subject matter.

5 187. A system as described in claim 181, herein the signal is a television signal.

188. A system as described in claim 181, wherein the television signal is analog.

189. A system as described in claim 181, wherein the television signal is digital.

190. A system as described in claim 181, wherein the broadcast system is selected  
from the group consisting of: a terrestrial broadcast system, a satellite broadcast system, a  
10 cable distribution system, a fiberoptic distribution system, the Internet, a private network, and  
a public network.

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